administration of this grant, prepared by a Special Committee of the Institute and adopted by the Executive Committee, has since received the sanction of the Court of the Salters' Company. The first award was made in January of the present year to Dr. Martin O. Forster. A sum of £333 4*s*. 3*d*. has also been received from the Committee of the Siemens Memorial Window Fund, "as an endowment to furnish a small sum to the recipient of the Siemens Memorial Medal, which is awarded annually to the student of the greatest merit in the Department of Electrical Engineering at the Central Technical College of the City and Guilds of London Institute." The Report deals in detail with the operations of the several colleges, schools, and departments of the Institute's work.

MISS GRACE CHISHOLM has just taken the degree of Doctor of Philosophy at Göttingen, this being the first degree obtained by a lady since Göttingen became a Prussian University. Miss Chisholm was a scholar of Girton College, Cambridge, and was placed between the 22nd and 23rd Wranglers in Part I. of the Mathematical Tripos in 1892, and in Class 3 of the Mathematical Tripos, Part II., in 1893. In 1892 she also took a first class in the Final Mathematical School at Oxford. After leaving Girton, she proceeded to Göttingen, and, receiving permission to attend the mathematical lectures, was in residence there about a year and a half. It was with the express sanction of the Prussian Minister of Education that the doctor's degree was conferred on her, and it is thought that the precedent thus established will probably lead to a substantial development in the opportunities offered for the higher education of women in Germany.

SILVER MEDALS have been awarded to Mr. R. H. Turnbull, Mr. G. F. Mair, and Mr. And. Robertson, of the Glasgow and West of Scotland Technical College. The medals were purchased with funds placed at the disposal of Prof. A. H. Sexton, by the West of Scotland Iron and Steel Institute, for the award of prizes for knowledge of the metallurgy of iron and steel.

SCIENTIFIC SERIALS.

American Meteorological Journal, April.—Recent foreign studies of thunderstorms: Switzerland, by R. De C. Ward. The systematic study of thunderstorms has been regularly carried on in Switzerland since 1883, and the results have been published yearly in the *Annalen* of the Central Meteorological Office, but there has been no general summary of the whole data. The general conditions of thunderstorm development in Switzerland are the presence of cyclonic depressions over Northern Europe, high temperatures, southerly winds and secondary depressions over Switzerland.—Note on Croll's glacial theory, by Prof. W. M. Davis. This is a reprint from the *Transactions* of the Edinburgh Geological Society (vol. vii.). The author thinks that the recent studies of Dr. J. Hann, on the origin of cyclones and anti-cyclones, suggest an amendment to Croll's physical explanation of the climate of the glacial period.

Symons's Monthly Meteorological Magazine, April.—Earth temperatures and water-pipes, by the Editor. A table shows the earth temperatures at nineteen stations in various parts of the country, from which it is seen that frost penetrated to 1 foot at eleven stations, to 1 foot 6 inches at three stations, to 2 feet at one station, and nowhere reached 2 feet 6 inches. The fact that ice formed in many pipes buried 2 feet 6 inches, and probably lower, is indisputable, but the explanation is not given of the apparent discordance between the temperature of the water and that shown by the earth thermometers.—The great gale in the Midlands on March 24, by H. A. Boys and A. W. Preston. This appears to have been, locally, one of the heaviest gales for many years. In a park near East Dereham, it is said that 1100 trees were uprooted. The worst part of the hurricane was from 1h. 30m. to 2h. 15m. p.m., and both observers state that the gusts were little short of force 12 of the Beaufort scale, which is equivalent to a velocity of ninety miles in the hour.—Snow from a cloudless sky, by C. L. Prince. The author states that at Crowborough, Sussex, on February 6, some snow crystals and minute spiculæ of ice fell at intervals, without any visible cloud.

L'Anthropologie, 1895, tome vi. No. 1.—Note sur l'âge de la pierre en Ukraïne, par M. le Baron de Baye. The author collected the materials for this article while residing in the province of Kiev, during the years 1893 and 1894. Little Russia contains three kinds of tumuli of the Stone age: (1) Small tumuli each containing a single skeleton resting on clay or white sand, and wrapped in birch bark; and in which small stone arrowheads are found, but no stone implements of large size. (2) Cists, constructed of stone slabs, containing vases filled with ashes and burnt bones, with which are associated polished stone weapons. (3) Tumuli containing skeletons, certain parts of which, particularly the bones of the head, are coloured red. Opinions differ as to whether this colouration has been produced naturally or artificially; but the interments may probably be referred to the end of the Stone age, as only three bronze relics have been found in sixty of these tombs opened by Prof. Antonowitch.—La sculpture en Europe avant les influences gréco-romaines, par M. Salomon Reinach. In this number the author describes and figures relics of the Bronze age, chiefly swords and dagger hilts, many of them of great beauty.—De l'art du potier de terre chez les Néo-Calédoniens, par M. Glaumont. The pots of the New Caledonians are made of clay; they are spheroidal in shape, and have large mouths, the lips of which are turned over and pierced with two, or sometimes four, holes, through which a cord is passed to facilitate transportation from one place to another. They never have feet, but, when used for cooking, are either supported on two or three stones fixed in the ground, or they are suspended from a branch driven obliquely into the earth so as to project over the hearth. The ornamentation is usually very simple, consisting merely of lines, but on one vase from the north of the island, figured by M. Glaumont, there appears a human face in relief.—Les races de l'Ogooué. Notes anthropologiques, par M. Liotard. It is now fully recognised that the population of the Gaboon consists of several peoples of different types, each having special characteristics. M. Liotard has had exceptional opportunities of studying these people, and here records some of the results of his observations.

IN Nos. 1–4 of the *Bullettino* of the *Società Botanica Italiana* for 1895 is an article by Sig. P. Voglino, on the part played by snails and toads in the propagation of certain fungi. In the digestive canal of these animals he found abundance of the spores of species of *Russula*, *Tricholoma*, *Lactarius*, and other species of Agaricini. The faculty of germination of these spores had not been destroyed by passing through the body of the animal. Sig. A. De Bonis contributes a paper on the cleistogamous flowers of *Portulaca grandiflora*, *Salpiglossis sinuata*, and *Lamium amplexicaule*. The production of these flowers he attributes to unfavourable vital conditions, especially sterility of the soil. The remaining articles are chiefly of interest to Italian botanists.

SOCIETIES AND ACADEMIES.

LONDON.

Physical Society, April 26.—Mr. Walter Baily, Vice-President, in the chair.—Prof. S. P. Thompson read a note on a neglected experiment of Ampère. Ampère, in 1822, made an experiment which, if it had been properly followed up, must have led to the discovery of the induction of electric currents nearly ten years before the publication of Faraday's results. While attempting to discover the presence of an electric current in a conductor placed in the neighbourhood of another conductor, in which an electric current was flowing, Ampère made the following experiment. A coil of insulated copper strip was fixed with its plane vertical, and a copper ring was suspended by a fine metal wire, so as to be concentric with the coil, and to lie in the same plane. A bar magnet was so placed that if an electric current was induced in the suspended ring, a deflection would be produced. No such deflection, however, was observed. In 1822, in conjunction with de la Rive, Ampère repeated this experiment, using in place of the bar magnet a powerful horse-shoe magnet. He describes the result in the following words:—"The closed circuit under the influence of the current in the coil, but without any connection with this latter, was attracted and repelled alternately by the magnet, and this experiment would, consequently, leave no doubt as to the production of currents of electricity by induction if one had not suspected the presence of a small quantity of iron in the copper of which the ring was formed." This closing remark shows that they were looking for a permanent deflection. When, however, Faraday's results were published in 1831, Ampère, after again describing the experiment made in 1822 by himself and de la Rive, says:—"As soon as we connected a battery to the terminals of the conductor the ring was attracted or expelled by the magnet, according to the pole that was within the ring, which showed the existence of an electric current produced by the influence of the current in the conducting wire. Verdet, when describing the above experiment, falls into a curious error. He says the apparatus consisted of a ring of fine copper wire, suspended by a silk thread in front of the pole of an electromagnet in such a way that the plane of the ring was parallel to the plane of the turns of wire on the electromagnet. On "making" the current the ring is said to have been repelled, but this deviation did not persist, and on "breaking" the current the ring was attracted, also only momentarily. Mr. Blakesley did not feel quite confident that in Verdet's form of the experiment there could ever be attraction. He also pointed out that with an alternating current the disc would tend to set itself parallel to the lines of force of the electromagnet. With reference to repulsion by alternating currents in one of Elihu Thompson's experiments where a sphere is supported over an alternating pole, a screen being placed so as to partly shield this sphere, there is generally a misstatement as to the direction in which the sphere rotates. It rotates in such a direction that the part of its surface next the magnet moves towards the edge of the screen. Dr. Burton said that from the fact that when the current in the electromagnet in Verdet's experiment is broken, the induced current in the ring is in the same direction as the current in the magnet, the ring will be attracted. Mr. Boys confirmed Dr. Burton's statement. He recommended setting the ring at an angle of 45° to the lines of force, under which circumstances a rotation would be obtained. A distinction must, he pointed out, be drawn between such an experiment as that of Verdet and those of Elihu Thompson. The repulsions observed in these latter were only due to the "lag" in the induced currents caused by self-induction. The best materials to use for all such experiments were magnesium and aluminium, since for a given mass these had the highest conductivity.—Mr. W. G. Rhodes read a paper entitled "A theory of the Synchronous Motor." The object of this paper is to give as simple a treatment as possible of the mathematical part of the subject, and to give theoretical proofs of some experimental facts. Starting from the energy equation

$$p + c^2 R = c E \cos \psi$$

where p is the output of the motor, R the resistance of the armature, c the current through the armature, E the E.M.F. applied to the motor terminals, and ψ the phase difference between c and E the cases of maximum output, zero output, minimum current at zero power, and maximum phase difference between c and E are considered. These results are, for the most part, obtained directly from the energy equation. The latter part of the paper is devoted to a discussion of the phase relationships between the current and the E.M.F.s in a plant consisting of a generator and motor, and to the variations in the armature reactions in both generator and motor. A theoretical proof is given of the fact, observed by Prof. Silvanus Thompson and others, that an over-excited synchronous motor acts as a condenser, and tends to make the current lead before the generator's E.M.F. Prof. S. P. Thompson said that the mathematical part of the paper was much simpler than that in previous investigations on this subject, and the method of arriving at the results by rejecting imaginary roots of the equations was particularly neat and instructive. The part of the paper relating to armature reactions and phase relationships was quite new. Two results deserved special attention: first, that the maximum current at zero power was the same as if the circuit was non-inductive; second, that the maximum current zero power was double the current corresponding to maximum output. Mr. Blakesley said that the paper did not consider the stability of the system, and he thought some of he results corresponded to regions of unstability.—A paper by Mr. Bryan. "On a simple graphical interpretation of the determinantal relation of dynamics," was, in the absence of the author, read by Dr. Burton. The relation is worked out for two specially simple systems possessing one degree of freedom: (1) a particle moving in a straight line with uniform acceleration; (2) a particle moving to and fro along a straight line with an acceleration directed towards a fixed point on the line, and proportioned to the distance from that point (simple harmonic motion). On constructing a diagram in which the abscissæ represent values of the single coordinate of the particle, and the ordinate's corresponding values of the momentum, the determinantal relation becomes equivalent to the constancy of the area of a certain elementary parallelogram. In case (1) this parallelogram moves along a parabola, experiencing a shear as it goes, while in case (2) there is no distortion, the (rectangular) parallelogram revolving about the origin of the diagram as if rigidly attached to an inextensible radius vector.

Linnean Society, April 18.—Mr. C. B. Clarke, F.R.S., President, in the chair.—In view of the approaching anniversary meeting, the election of auditors was made, when Mr. A. D. Michael and Prof. J. R. Green were nominated on behalf of the Council, and Messrs. E. M. Holmes and H. Groves on behalf of the Fellows.—Mr. T. B. Blow exhibited specimens of the river-weed *Mourera fluviatilis*, Aublet, from the River Essequibo, with observations on its life-history, and lantern slides illustrating the natural haunts of the plant.—Mr. J. E. Harting exhibited and made remarks upon a collection of West African Lepidoptera which had been collected and forwarded by Mr. J. T. Studley from Old Calabar, and was to be presented to the British Museum.—Mr. Howard Saunders exhibited a specimen of the European white-winged Crossbill, *Loxia bifasciata*, which had been shot in co. Fermanagh in February last, and was lent for exhibition by Mr. C. Langham.—Some photographs of English Red-deer heads, showing successive growths of antlers in the same stag by comparison of the shed horns, were exhibited on behalf of Mr. Lucas, of Warnham Court, Horsham.—A paper was then read by Mr. F. W. Keeble, entitled "Observations on the *Loranthaceæ* of Ceylon," in which country the author had made a short sojourn in 1894. After remarking that in Ceylon many species of *Loranthus* have large and conspicuous flowers, with the corolla-tube brightly coloured, more or less tubular and lobed, he pointed out that certain deviations from the typical regularity of the corolla-tube were correlated with the mode of fertilisation of the flower by Sun-birds (*Nectarineæ*), and this was made clear by diagrams and some excellent coloured drawings. Discussing the mode of distribution of the seeds, Mr. Keeble first quoted the views of Engler and Prantl, and the remarks in Kerner's "Pflanzenleben" (English edition), on the dissemination of the European Mistletoe, and then detailed his own observations in the case of tropical *Loranthaceæ*. The modes of germination of various species of *Loranthus* and *Viscum* were then described, as well as the curvature and growth of the hypocotyl, and the effect of contact on the latter, and on its suctorial disc; the paper concluding with some remarks on the forms of fruit and seed of Cinghalese species of *Loranthaceæ*.—Mr. A. Trevor-Battye exhibited and made remarks upon a collection of plants obtained during his sojourn on the Island of Kolguev.

Entomological Society, May 1.—Prof. Raphael Meldola, F.R.S., President, in the chair.—Dr. C. G. Thomson, of the University, Lund, Sweden, was elected an Honorary Fellow, to fill the vacancy in the list of Honorary Fellows caused by the death of Pastor Wallengren.—Mr. Waterhouse exhibited a living larva of a Longicorn Beetle. This larva was found in a boot-tree which had been in constant use by the owner for fourteen years, the last seven of which were spent in India. The specimen was brought to the British Museum on May 6, 1890, and was put into a block of beech wood in which it had lived ever since; it did not appear to have altered in any way during these five years. It had burrowed about eight inches, and probably made its exit accidentally. Mr. Blandford referred to a similar case which had come under his notice.—Mr. C. G. Barrett exhibited a long series of the dark and strongly-marked varieties of *Agrotis cursoria* and *Agrotis tritici*, taken on the sand-hills of the north-east coast of Scotland by Mr. Arthur Horne, of Aberdeen.—Mr. Dale exhibited a specimen of a Sesia—supposed to be a new species—from the New Forest.—Mr. O. E. Janson exhibited a remarkable species of *Curculionidæ* from the island of Gilolo, having exceedingly long and slender antennæ and legs; it was apparently an undescribed species of the genus *Talanthia*, Pascoe.—Mr. Nelson Richardson called attention to a paper by himself, in the *Proceedings* of the Dorset Natural History and Antiquarian Field Club, on the subject of Dorset Lepidoptera in 1892 and 1893.—Mr. W. L. Distant communicated a paper entitled, "On a probable explanation of an unverified observation relative to the family Fulgoridæ." In the discussion which ensued, Mr. Blandford said he thought further evidence was required on the subject of the alleged luminosity in the Fulgoridæ before the statement contained in Mr. Distant's paper could be accepted.—Mr. J. J. Walker, R.N., contributed a paper entitled, "A preliminary list of the Butterflies of Hong-Kong, based on observations and captures made during the winter and spring months of 1892 and 1893."—Prof. Meldola commented on the interesting character of the paper from an entomological point of view, and the value of the observations therein on the geology, botany, and climate of Hong-Kong.

Geological Society, April 24.—Dr. Henry Woodward, F.R.S., President, in the chair.—On the shingle beds of Eastern East Anglia, by Sir Henry H. Howorth, F.R.S. The author has carefully examined the country around Southwold, where the beds known as Westleton beds (which might well have been associated with the name of Southwold) are developed. He alluded briefly to the recent shingle, the pebbles of which are derived from the ancient shingles of the cliffs; the formation of this shingle, he maintained, may belong to a time not far removed from our own day. Turning to the Westleton beds, he noticed that they were essentially "drifts," the component pebbles not having been shaped on the spot, but brought as pebbles from elsewhere; and he gave reasons for supposing that they were derived from pebbly beds in the Lower London Tertiary group and in the Red Crag. He also maintained that the shells of the Westleton beds and Bure Valley beds were derived from crag deposits. Reasons were given for supposing that the pebbles of the Westleton shingle of East Anglia came from the west, and that this moved eastward from the plateau of Suffolk towards the sea. It was considered that these beds can only be explained by a tumultuous diluvial movement.—Supplementary notes on the systematic position of the Trilobites, by H. M. Bernard. Since the publication of a paper by the author in the *Quarterly Journal of the Geological Society* for 1894, two important papers by Dr. Beecher have appeared, giving details as to the structure and appendages of *Triarthrus*. The author, therefore, returned to the subject, and discussed in detail the more recent discoveries in the light of the affinity between *Apus* and the trilobites. He endeavoured to show how the results obtained by Dr. Beecher bear on the larger question as to the suggested origin of both of these animals from a chætopod annelid modified in adaptation to a new manner of feeding.—An experiment to illustrate the mode of flow of a viscous fluid, by Prof. W. J. Sollas, F.R.S. The author, recognising that it is by a knowledge of the laws of viscous flow that we must seek to extend our information concerning the movements of flowing ice, conducted an experiment, the details of which were described, with a model of a glacier composed of the modification of pitch usually known as "cobbler's wax." In the model the pitch moved under its own weight over the horizontal floor of a trough, which was crossed by a barrier to represent an opposing mountain or the rising end of a lake. The results of the experiment showed that the movement of the pitch-glacier was not confined to that portion of it which rose above the barrier, but extended throughout its mass, and that an upward as well as forward movement took place as the barrier was approached. Thus the transport of stones by glaciers from lower to higher levels was by no means an incredible phenomenon, but a necessary concomitant of such simple conditions as those assumed in the experiment.

Malacological Society, April 19.—Dr. H. Woodward, F.R.S., Vice-President, in the chair.—In addition to specimens in illustration of authors' papers, the following were shown: Mr. A. S. Kennard exhibited a series of Mollusca from a Pleistocene deposit at Crayford; Mr. S. Pace exhibited two species of *Estheria* from Persia and S. Algeria; Mr. W. M. Webb exhibited mollusca from a Pleistocene deposit at Chelmsford; Mr. E. R. Sykes exhibited a distribution chart of *Clausilia*.—The following communications were read:—On some new species of British Mollusca from the *Triton* Expedition, by H. K. Jordan.—The Anatomy of *Natalina caffra*, Fer, by M. F. Woodward.—Descriptions of new species of Mollusca of the genera *Bullia*, *Mangelia*, *Trochus*, &c., from the Mekran Coast, by G. B. Sowerby.—List of Land and Freshwater Mollusca from New Providence Isle, Bahamas, by W. Bendall.—Notes on two cases of the transport and survival of Terrestrial Mollusca in the New Forest, by T. Leighton.

Royal Microscopical Society, April 17.—Mr. A. D. Michael, President, in the chair.—The Secretary said they had received a valuable donation from the South London Microscopical and Natural History Club, in the shape of a lantern with microscope attachment.—Mr. A. Letherby read a short paper upon the structure of the Podura scale.—The President read a paper on the structure of the brain in the Oribatidæ and in some other Acarina.

CAMBRIDGE.

Philosophical Society, April 29.—Exhibition of *Palophus tiaratus* (a stick-insect from Mashonaland), by Dr. D. Sharp.—A modified method of finding the specific gravities of tissues, by Dr. Lazarus-Barlow. The author showed an improved method of finding the specific gravity of tissues. In a research on the pathology of the œdema which accompanies passive congestion, published in the *Philosophical Transactions* of the Royal Society, he used the solutions made up with glycerine introduced by Roy for the estimation of the specific gravity of blood, but found that difficulty arose from the large quantity of muscle used in obtaining the correct specific gravity, and from the fact that the glycerine abstracts water from the muscle with such rapidity that after a very few seconds the piece of muscle invariably sank. He therefore has used for the past year solutions of various specific gravities made with gum arabic, which he arranges in a wide test-tube in their order of density. Alternate layers are coloured blue. Diffusion occurs with extreme slowness, so that 48 hours after arranging the test-tube the various layers are quite evident. The special advantages of the method are that one piece of muscle is sufficient for an estimation, as it sinks through the layers of lower specific gravity until it reaches that layer with which it is identical; that water is abstracted from the muscle by gum much more slowly than by glycerine, and that, as has been shown by Heffter, the vitality of cardiac muscle is better maintained by gum arabic solutions than by any other solution.—Crania of native tribes of the Panjab, by Prof. Macalister.

PARIS.

Academy of Sciences, April 29.—M. Marey in the chair.—A projected balloon expedition to the Arctic regions, by M. S. A. Andrée. The author defines the conditions necessary to be fulfilled by a balloon destined for Arctic exploration, and shows that such conditions can be fulfilled. He has succeeded in obtaining a certain amount of directive power by using a rope drag to retard the progress of the balloon relatively to the wind, and then using a sail in the ordinary way. By this device a mean deviation of 27° has been secured. Sometimes a deviation of nearly 40° has been obtained. M. Emile Blanchard in connection with this paper calls attention to the probability of existence of an open polar sea, and points out the support this view receives from the many flocks of web-footed birds observed making their way northwards by explorers when nearest to the pole.—On the double points of a group of algebraical surfaces, by M. G. B. Guccia.—On the types of groups Ω of substitutions, of which the order equals the degree, by M. R. Levavasseur.—On an application of M. Darboux's method (mathematical analysis), by M. Beudon.—On the rotation of solids, by M. R. Liouville.—On a class of periodic solutions in a particular case of the problem of three bodies, by MM. J. Perchot and J. Mascart.—Measurements of the intensity of gravity in Russia, by M. G. Defforges. Data are given for Pulkowa, Tiflis, Ouzoun Ada, Bokhara, and Tashkend, from which it is shown that the negative continental anomaly is very pronounced at Ouzoun Ada and Tashkend, and at Bokhara is of the same order as at Paris; the positive anomaly is greater than previously observed at Pulkowa.—On the specific heat of superfused liquids, by M. Louis Bruner. Thymol and paracresol give specific heats increasing with the temperature range when cooled without solidification to approximately the same extent below their melting-points for each experiment. Menthol and bromal and chloral hydrates cannot be obtained superfused by cooling.—On the solidification of some organic substances, by M. Louis Bruner.—On the regularity of luminous movement, by M. Gouy.—On the electric resistance of saccharine liquids, by MM. Gin and Leleux. Expressions are given showing the relationships between resistance and the concentration and temperature of saccharine solutions. The resistance is shown to be a function of the current density. This result is explained on the Arrhenius hypothesis as due to the state of ionisation of the badly conducting electrolyte.—New researches on the heats of combination of mercury with the elements, by M. Raoul Varet.—On the action of the halogen compounds of phosphorus on metallic copper, by M. A. Granger. Copper phosphide, CuP_2, is produced by passing phosphorus trichloride vapour in carbon dioxide over slightly heated copper; cuprous chloride is formed at the same time and deposited at the end of the tube. PBr_3 and PI_2 give the same compound. PF_3 needs a red-heat, and produces Cu_5P_2.—Researches on manganese, by M. Charles Lepierre. The manganic-ammonium sulphate is described in addition to hydrated and anhydrous ammonium-manganous sulphate.—Campholenic acids and amides, by M. A. Béhal. Isomeric acids and amides have been obtained. The solid acid was thought to be the racemic form of the liquid acid, but all attempts to separate optical isomers have failed.—Double combinations of anhydrous aluminium chloride with nitro-compounds of the aromatic series, by M. G. Perrier. A series of compounds of the type $Al_2Cl_6 . 2C_6H_4 . CH_3 . NO_2$ (1 : 4) are described, and it is shown that with nitro-derivatives of the type of paranitrotoluene, Friedel and Crafts' reaction fails.—On a possible error by the use of Fehling's solution for the estimation of sugar in urine from persons submitted to treatment with sulphonal, by M. Ph. Lafon.—On the panification of brown bread, by M. James Chappuis.—On the causes which produce the colour of brown bread, by M. Léon Boutroux. Gluten may give the colour in bread by desiccation, but not by fermentation. By oxidation with air in presence of water, bran may produce the colouration of bread; but, again, fermentation has no such effect. The acidity of the yeast is a protection against browning.—On the ethology of the genus *Thaumaleus Kröyer*, by M. Alfred Giard.—Observations on the hornets, by M. Charles Janet.—New researches on "la brunissure," by M. F. Debray.—Action of static sparks on the local temperature of regions submitted to this method of franklinisation, by M. H. Bordier.—Treatment of a case of sarcoma by serotherapy, by MM. J. Héricourt and Ch. Richet.—The catastrophe of Laibach, April 14, 1895, by M. Ch. V. Zenger.

Washington.

National Academy of Sciences, April 16-20.—On some variations in the genus Eucope, by A. Agassiz and W. McM. Woodworth; notes on the Florida reef, by A. Agassiz; the progress of the publications on the expedition of 1891 of the U.S. Fish Commission Steamer *Albatross*, Lieut.-Commander Z. L. Tanner commanding, by A. Agassiz; on soil bacteria, by M. P. Ravenel; a linkage showing the laws of the refraction of light, by A. M. Mayer; on the colour relations of atoms, ions and molecules, by M. Carey Lea; mechanical interpretation of the variations of latitude, by R. S. Woodward; on a new determination of the nutation-constant, and some allied topics, by S. C. Chandler; on the secular motion of a free magnetic needle, by L. A. Bauer; on the composition of expired air, and its effect upon animal life, by J. S. Billings; systematic catalogue of European fishes, by Th. Gill; the extinct cetacea of North America, by E. D. Cope; on the application of a percentage method in the study of the distribution of oceanic fishes—(1) definition of eleven faunas and two sub-faunas of deep sea fishes, (2) the relationships and origin of the Carribeo-Mexican and Mediterranean sub-faunas, by G. Brown Goode; on the two isomeric chlorides of ortho-sulpho-benzoic acid, by Ira Remsen; on some compounds containing two halogen atoms in combination with nitrogen, by Ira Remsen; presentation of the Watson Medal to Mr. Seth C. Chandler, for his researches on the variation of latitudes, on variable stars, and for his other works in astronomy; biographical memoir of Dr. Lewis M. Rutherfurd, by B. A. Gould; relation of Jupiter's orbit to the mean plane of four hundred and one minor planet orbits, by H. A. Newton; orbit of Miss Mitchell's Comet, 1847 VI, by H. A. Newton.

New South Wales.

Linnean Society, March 27.—Prof. David in the chair.—The President delivered the annual address, in the course of which reference was made to the recent suit in the Equity Court, in which the Society was defendant, brought by the University of Sydney to obtain the declaration of the Court as to the construction of so much of the will of the late Sir William Macleay as relates to his bequest of £12,000 for the endowment of bacteriology; and the full text of the judgment of his Honour the Chief Judge in Equity was read. After summarising the contributions to science made during the year by the various local scientific institutions and departments, the President passed on to consider at some length the subject of recent research in the Arctic and Antarctic regions, and especially the important question outlined by Dr. John Murray, namely, that of the desirability of a laborious and systematic exploration of the whole Antarctic region with all the appliances of the modern investigator. The following gentlemen were elected office-bearers and Council for 1895. President: Henry Deane. Vice-Presidents: Dr. James C. Cox, Prof. W. A. Haswell, Prof. T. W. E. David. Treasurer: The Hon. James Norton. Council: John Brazier, Cecil W. Darley, Thomas Dixson, J. R. Garland, Arnold U. Henn, A. H. S. Lucas, J. H. Maiden, C. J. Martin, Perceval R. Pedley, P. N. Trebeck, Thomas Whitelegge, Prof. J. T. Wilson.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Books.—Elements of Health: Dr. L. C. Parkes (Churchill).—A Treatise on Practical Chemistry: Dr. F. Clowes, 6th edition (Churchill).—Chemical Technology, edited by Groves and Thorp. Vol. 2. Lighting (Churchill).—Fern-Growing: E. J. Lowe (Nimmo).—Le Centenaire de l'École Normale (Paris, Hachette).—Le Cause dell' Era Glaciale: L. de Marchi (Pavia, Fratelli Fusi).—Die Lehre von der Elektrizität und deren Praktische Verwendung: Th. Schwartze (Leipzig, Weber).—Physikalische Krystallographie: P. Groth, Dritte Auflage, 3 Abthg. (Leipzig, Engelmann).—Low's Chemical Lecture Charts (Low).—Die Photographie ein Handbuch für Fach-und Amateur-Photographen: A. Hertzka (Berlin, Oppenheim).—Object-Lessons in Botany: E. Snelgrove, Book 2 (Jarrold).—Dakota Grammar, Texts and Ethnography: S. R. Riggs (Washington).—Eleventh and Twelfth Annual Reports of the Bureau of Ethnology: J. W. Powell (Washington).

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Serials.—Humanitarian, May (Hutchinson).—Record of Technical and Secondary Education, April (Macmillan).—British Moss-Flora: Dr. B Braithwaite, April (the Author, Clapham Road).—Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie, Zwanzigster Band, 3 Heft (Leipzig, Engelmann).—Fortnightly Review, May (Chapman).—Internationales Archiv für Ethnographie, Band viii. Heft 2 (Leiden, Brill).—Philosophical Society of Washington, Bulletin Vol. xiii. pp. 31–76 (Washington).—Zeitschrift für Physikalische Chemie, xvi. Band, 4 Heft (Leipzig, Engelmann).—L'Anthropologie, tome vi. No. 2 (Paris, Masson).—Scribner's Magazine, May (Low).—Geological Magazine, May (Dulau).—Quarterly Journal of the Geological Society, Vol. li. Part 2, No. 202 (Longmans).—Geographical Journal, May (Stanford).

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